



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,495	12/28/2001	Andre L. Mercanzini	50767/P015US/10106749	2024

27683 7590 11/16/2004

HAYNES AND BOONE, LLP
901 MAIN STREET, SUITE 3100
DALLAS, TX 75202

EXAMINER

PALADINI, ALBERT WILLIAM

ART UNIT PAPER NUMBER

2125

DATE MAILED: 11/16/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

sk

Office Action Summary

Application No.

10/034,495

Applicant(s)

MERCANZINI

Examiner

Albert W Paladini

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-36 is/are allowed.
- 6) ☒ Claim(s) 1-7, 14 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 8-13, 15-17 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-7, 14, and 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamerly (6711318).

In figure 7, Hamerly discloses a system for handling a plurality of rotating micro-mirrors 148A – 148H on substrate 159. The axis of rotation of micro-mirror 148A is different than that of 148B – 148H. Claims 4, 5, 17-19 recite a rotation which is parallel to the substrate, while claims 6, 7, 20, 21 recite a rotation which is perpendicular to the substrate. Although Hamerly discloses mirrors, which rotate on axes parallel to each other, the axis of rotation is parallel to one side of the substrate, and perpendicular to another side of the substrate. This meets the limitations of claims 6, 7, 20, and 21.

Allowable Subject Matter

3. Claims 23-36 are allowed.
4. Claims 8-13, 15-17 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is a statement of reasons for the indication of allowable subject matter: None of the references cited or the art searched disclose or teach alone or in combination a system for handling microcomponents with a substrate containing a plurality of micro-devices capable of performing a rotational operation with the specific rotational limitations relating to the x, y, and z axes as recited in claims 8-12, 15-17 and the ability to assemble as recited in claims 13, 22 and the ability to assemble and handle as recited in claims 23-36.

Relevant Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okada (5493156) discloses a micro electromechanical device where a primary object of the present invention is to provide equipment using a rotary type micro-actuator in which rotation of the rotor unit can be easily coupled to external devices, and the first and second layers of substrates are adhered to form a micro-actuator. The micro-actuator is formed on the first layer, and a passive movable unit is formed on the second layer. Since there are no obstacles around the passive movable unit on the second layer, the rotary motion of the micro-actuator can be easily coupled to external devices via the passive movable unit.

Art Unit: 2125

Lin (6539718) discloses an actuating mechanism for a rotating micro mirror, which includes a silicon substrate, and interconnected linking rods, shafts, and actuators, which control the rotational movement of a micro-mirror.

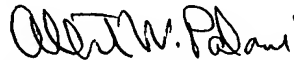
Hsu (6694071) discloses an improved method an apparatus for switching optical signals, which includes a substrate of a chip, a support structure mounted to the substrate, a microstructure carrying optically transmissive waveguides and rotatably mounted to the support structure for movement relative to the substrate, and a control structure for rotating the microstructure relative to the substrate.

7. Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (572) 272-3748. The examiner can normally be reached from 7:30 to 3:30 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (572) 272-3749. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

November 9, 2004


Albert W. Paladini
Primary Examiner
Art Unit 2125